



A reticulated giraffe on a private ranch near Lewa, Kenya. Handheld,  $\frac{1}{500}$  second at f/8, ISO 200 (Nikkor 80-200mm f/2.8 D AF-S lens with a Nikon 2X Teleconverter).



# Kodak Professional DCS 760 digital SLR camera

By Kevin Ames

Reviewing a digital camera requires more than exploring the features and operation of the body. You've also got to explore the CCD chip (the film if you will) and the software that moves images from the camera into usable image files for Adobe Photoshop or other imaging applications.

The new Kodak Professional DCS 760 integrates the body, chip, and software quite well indeed.

The body is a modified 35mm Nikon F5 SLR with all the durability and most of the functions of the original, with a couple of exceptions. Naturally, there is no film drive or rewind motor, and the modified version will not work in through-the-lens (TTL) metering mode with Nikon's dedicated electronic flashes. The flash that is designed for the DCS 760, Nikon's SB-28DX, uses camera-to-subject information from the autofocus system to set the proper exposure. When you think about it, this is a far superior method than reading the flash bouncing off the film, as in the standard Nikon F5. What is important is how well Kodak has integrated their digital capture technology with Nikon's F5 to build a wonderful professional digital camera.

### The CCD

A bit smaller than 35mm film, the CCD imager sits in the plane where film would go in the 35mm Nikon F5, right behind the self-diagnostic titanium shutter. It captures a 36-bit, 2,008x3,032-pixel image that opens as a 17.4 megabyte TIFF file. The DCS 760 offers true wide-angle digital captures. The focal length multiplier is 1.3, so a 17mm lens on the DCS 760 equates to a 22mm on a full-frame film camera.

There's a removable infrared cutoff filter in front of the mirror, shutter, and CCD and before the lens that can be replaced with an optional anti-aliasing filter to help reduce color artifacts in the highlights. While there is some debate as to the loss of sharpness caused by the presence of another piece of glass between the lens and CCD, the reduction of dust on the imager is



**Portrait of a Maasai woman. Handheld,  $\frac{1}{250}$  second at f/3.5, ISO 200 (Nikkor 80-200mm f/2.8 D AF-S lens).**

worth any imperceptible degradation—because they're electrically charged, CCDs are dust magnets.

I tested the Kodak Professional DCS 760 for three weeks on safari in Kenya. In the dry, high desert of eastern Africa, dust is a constant, especially shooting from the open-topped Land Cruisers we used on game drives. It was not unusual to return to camp covered in dust—I

could write on my forearm with a wet finger. Despite regular lens changes in these adverse conditions, the DCS 760 had no dust artifacts over the course of over 3800 exposures.

The only drawback to the filter is that the rear element of some Nikkor lenses extends far enough behind the back flange to damage the filter when they are mounted.





A young lion watches in the Maasai Mara. Handheld with sandbag,  $\frac{1}{600}$  second at f/5.6, ISO 250 (Nikkor 80-200mm f/2.8 D AF-S lens with a Nikon 2X Teleconverter).

Check out the detailed appendix in the electronic users manual for a chart of acceptable lenses, particularly before mounting older lenses.

### Powering the camera

The Kodak Professional DCS 760 relies on a proprietary 7.2-volt rechargeable battery, NiCad or NiMH, reportedly good for 100 and 300 exposures, respectively. In my tests, the NiMH version performed quite well. The battery also provides power to charge a small battery that maintains the camera's preferences. If this battery discharges, such information as the nameplate, date, and time have to be reentered. The manual notes that if a battery is left in the camera for five or more days, it can discharge to the point of being useless or it can leak and damage the camera. As with all battery-powered devices, it's good practice

to remove and recharge the battery at the end of each session.

The DCS 760 ships with an external AC adapter, as well a dual battery charger with a built-in reconditioning function. These units run on 120 -240 volts and come with cords for most power systems. In Kenya, a supplied cord worked in the local outlets—when we had power. During the safari, I used two portable solar panels to keep the camera batteries and PowerBook charged. Other members of the safari used the cigarette lighter plugs in the two Land Cruisers for their video camera batteries.

### Storing and viewing images

The DCS 760 has two bays that can accommodate Type I, II, and III PCMCIA-ATA compatible flash memory and microdrives in PC card adaptors. I used two cards each with 1GB IBM microdrives. This config-

uration allows shooting 234 images without downloading. The truly great feature of the two card bays is that one can be removed for downloading without powering down the camera. An icon on the lower LCD flashes when the data is being written to the card. When it is solid, it is safe to remove either card.

The DCS 760 offers simple file management that is accessed with the menu button on the back of the camera. The LCD monitor displays the folder names available on both cards. The four-way rocker switch navigates to the folder and pressing OK on the camera back makes the choice and turns the monitor off. Images can be deleted individually, as untagged, or as a folder. One of the camera's inspired features is the ability to recover deleted images from a card. This feature works as long as the image data has not been overwritten. It's like being able to recover the exposures lost when you realize that the film hasn't gone through the camera.

Photographs can be reviewed on the LCD monitor on the back of the camera. Pressing OK accesses the last stored image and the four way rocker switch navigates forward and backward. The up and down positions bring up options that include a histogram, a zoom tool for checking sharpness, a four-thumbnail view, and a delete image window. It is possible to shoot while in the playback mode, but the four-way rocker will not change the focus zone while the LCD monitor is on. This is true when the nameplate is displayed when turning the camera on, which is not covered in the manual.

### Firmware & menus

The firmware that is installed in the camera provides the menus and other operational functions of the

capture system. This can be upgradeable with downloads from Kodak's website, [www.kodak.com](http://www.kodak.com).

There are only three menus that drive the DCS 760, making it quick to learn and easy to use. There is also an optional choice to display an image on an NTSC or PAL television monitor. The manual supplied as a PDF file on a separate CD-ROM deals more with the operation of the Nikon F5 body in all of its modes than it does with the operation of the digital systems.

One of the best features of this camera is in the image file itself. None of the captured data is permanently affected by any of the menu choices. So, if a photographer is shooting indoors with a tungsten color temperature setting in the white balance menu and then works outside in daylight without changing it, the setting can be reset in the Photo Desk software at a later time without altering any of the original data. Kodak accomplishes this by altering the header data in each file, not the pixels. The only setting that seems to alter the captured data is the ISO (80-400), which is set on the camera the same way it is in the film version of the Nikon F5.

## Software

The not-so-great news is that Photo Desk, the software developed for working with the Kodak Professional DCS 760 files, is not designed for professional needs. It has no documentation, save the help file that's accessed by clicking the question mark icons on each screen. Though it's somewhat intuitive, this and any professional package needs some form of user guide beyond the built-in help menu for using it.

Photo Desk works on either the Macintosh or Windows platform. And for a first version effort, isn't



Maasai warriors from several manyattas gather on a plateau to dance the ipid, jumping high to demonstrate their vigor. Young women watch to see which warrior jumps the highest, signifying his strength and attractiveness. Handheld,  $\frac{1}{200}$  second at  $f/4$ , ISO 400 (Nikkor 80-200mm  $f/2.8$  D AF-S lens).

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bad. I used version 1.1.12. Kodak has some work to do to bring this application up to the level of the camera it is designed to support.

A contact sheet appears on the screen when a folder of Kodak DCR files is opened in Photo Desk. Double-clicking an image renders it in a few seconds to a larger version that can be viewed at 25, 50, 100, or 200 percent. This is helpful for checking details. Moving around in an image larger than the screen can only be done with scroll bars or arrows. Kodak needs to add a hand tool like the one in Adobe Photoshop that allows navigation by holding down the space bar and dragging the resulting hand icon. Keyboard zoom shortcuts would be helpful as well.

Holding down the command key and clicking additional images makes multiple selections. This is contrary to the Mac OS standard, the shift key. These can be seen in a larger view by choosing the review feature in the view menu. It is quicker to use though not as high quality as the rendered method.

Selected thumbnails can be rotated and have their color temperature changed in Photo Desk. A slider controls exposure compensation of plus or minus two stops in fifth-stop increments. There is no option for curves or levels adjustment, nor is a histogram available as it is in Kodak's software for the Pro Back. Kodak names the DCS series cameras "Professional," and they are. Why not include professional workflow solutions in the software that manages the images? Companies like Leaf and Foveon have mastered workflow in their software.

Selected images can be renamed and saved either as a native DCR file or as a JPEG or TIFF file in either 8 or 16 bits. The DCS 760 names captured images in an arbitrary manner that ensures that no two files will ever be named the same and possibly overwritten during a shoot. To catalog photographs with a job name or number, the file must be resaved in Photo Desk. This is not a problem except when you need to rename and save a large number of files. This software works well with folders of no more than 200 images and so as long as the application's memory has been increased to 300MB or more. Photo Desk crashes when asked to open a large number of files due to its need to open each file in memory. This is not a problem for most photographic projects. After my safari, however, with almost 4,000 images using 30GB of storage, a batch processor for rotating, renaming, and making JPEG files for copyright registration would have been a huge timesaver.

Kodak Professional DCS Camera Manager software (included) is better than Photo Desk because its purpose is simpler. As its name implies, its job is to manage the camera or cameras (up to 63 of

them at once if the computer's resources can handle that many).

Almost all of the settings that can be changed at the camera can be made with Camera Manager running on a tethered computer. The camera can be fired and files renamed and saved through a Firewire connection. It can also be triggered from the camera itself. Files can be saved on a card and/or transferred directly into the computer's hard drive through a Firewire cable of up to 75 feet using repeaters. This software is a great help in the studio. Clients love to see images on a big monitor. Since Camera Manager also dynamically updates the Photo Desk contact sheet, clients can see their images appear as they are taken.

### Bottom Line

The really great news is the Kodak Professional DCS 760 is a superior digital camera that holds its own with imagers in the medium-format range. It is solid, well thought out and executed. It goes on location and functions without need for technical support right out of the box. On safari in Africa and about as far as one can get from help, it preformed flawlessly under adverse conditions from before dawn to after dusk. I highly recommend the Kodak DCS 760 camera to anyone serious about digital capture. ◀

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